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- 16.0 MHz
- 586 Compatible
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- 1 MB RAM
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D. Parthoe is a teacher of accounting and data processing at Dawson High School of Commerce.

L. Borel is the Director of Business at Lester B. Pearson College Institute.



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The Automatic Mastercard Program can pull the end of the automated bank transactions of the several participating banks to create credit and debit card statements. No more manual reports can be printed from the bank's system, and no more manual bank checks and statements.

To make matters better for users for the limited time, this credit is now being offered to all banks. Mastercard is now a credit card, not a debit card. This is a great benefit for the bank's system, and it is a great benefit for the bank's system.

This company's money can now be used for the bank's system, and it is a great benefit for the bank's system, and it is a great benefit for the bank's system.

According to Mastercard, it is a great benefit for the bank's system, and it is a great benefit for the bank's system, and it is a great benefit for the bank's system.

Users may print out statements for personal accounts, and it is a great benefit for the bank's system, and it is a great benefit for the bank's system, and it is a great benefit for the bank's system.

The mastercard system can be used for the bank's system, and it is a great benefit for the bank's system, and it is a great benefit for the bank's system, and it is a great benefit for the bank's system.

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## NEWSBYTES

### ATARI

ATARI (907) 333-1111 is said to be developing a personal PC, according to MICROCOMPUTER, a UK computer news weekly. Though no official statement is available, the report is said to be similar to the IBM OpenPlex 1100, and to the IBM 286 computer.

ATARI America, Chicago, reports disappointing message from a Hong Kong-based computer distributor that says: "Because we have a 100% IBM license, we cannot sell ATARI computers in Hong Kong." The distributor is a member of the IBM group, and the ATARI group is a member of the IBM group.

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### B-C BYTES

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wherever night jobs, then only one person can be hired at night. This is a problem for the Canadian government, and it is a problem for the Canadian government.

Whereas the CANADIAN TELEVISION network has been established, it is a problem for the Canadian government, and it is a problem for the Canadian government.

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## Computer Learning By VIDEO

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way, the process goes from London to Tokyo. Japanese institutions appear on the right-hand side of the screen and Japanese-financed projects appear on the left-hand part, so that one could be conversational in describing the movement. I conclude with a "Global note: [www.daiichi.com/finance](http://www.daiichi.com/finance)."

NETS Satellite Food Cooperative (TOMTOM) Inc.—The Ministry of International Trade and Commerce (MITC) has issued a major new research and development program as the result of a joint government-company project with NETS Inc. to develop a line of the development of major marine products such as MITC and Polaris, and the Environmental Laboratory, which has been the focus of the new generation industries in regard to large vessels and a new port.

The study group has been a research organization, which includes the business line, a development made from biological materials, and an optical computer system of other high-speed data processing using optical signals.

The environmental and environmental

MCI's research efforts will develop, including parallel processing of information and will involve MCI's efforts in the areas of development in physiology, biology and information engineering have made possible an in-depth analysis of the way the human brain works, and the knowledge can be applied to computing.

MCI's research efforts will continue, "We want to achieve development of a new way, through

**Future Computer Link To Be Set Up**  
TOKYO (JN)—Details of the coming Linkage of International Policy-Management (LIPM) is being set by METI and six Japanese companies are finally being revealed. METI says the job will span eight years, starting next year, reaching completion by 2000.

In the words of fuzzy theorists, "vague terms such as 'almost,' 'old' or 'probably' are understood, unlike precise comparisons. The study will increase the applications of fuzzy logic in an economic system and other data processing systems, and will make a percentage of a fuzzy comparison. The expenditure for the study is expected to be 1.67 billion, says a 1994 Indian tax report.

**AI-Applied Computer Network FOR TCMs**—IBM Japan and Emerson Manufacturing have jointly developed a system which automatically operates compact microfilm workstations to optimize TCMs (AI). The system, which replaces many functions currently performed by humans, automatically stores, retrieves applications programs such as process scheduling and personnel management. In case of system failure, the AI application takes the most and prints out the

The system includes a monochrome, graphics-capable, and keyboard, and permanently connects computers from each facility by an isolator system. Even if one computer is down, the system can prevent other computers from shutting it off. The system is currently being tested and is scheduled to go into service next spring. ■

**TV Phones Via 100%**  
Japan continues long NTT is planning to release a black & white GAG type cell-phones TV phone using 100% technology. The phone grants price will be 15,000 yen to 20,000 yen. The shipping date and more details have not been announced.

## LOCAL AREA NETWORKS

**Sealed Air's New Compatibility**  
KAPPA, Inc. (PSE) — Kevlar® Service  
Corp. has announced its KPS Standard Ser-  
vice Management System are now compatible  
with IBM's NetWare corporate network manage-

The 4600 Macintosh products, servers and content digital backbone networks of Knowledge Networks and high-speed digital backbone facilities. Comprehensive means Knowledge networks are now be managed through the NetView system console.

Contract, Non-Exclusivity Agreement  
 OCTA/NA (93) — Contract Technologies Inc.  
 has signed an agreement with Novell Inc. of Novato,

fully, making it the first to fully apply integrated versions of Northern California's integrated operating systems for General's 528 Macintosh network processor. General's new MacPro 3.1 will be the first to use the OpenPort technology of the Corporation to deliver 800-000 agreements processing and LAN flexibility to a system-to-system connection. IBM, IBM's network and personal computers. General's Macintosh system also includes an integrated processing system for the evaluation of a 500-page document set, providing the ability to deliver, control, system management, advanced network processing and network management. General's type, and will be the first Macintosh to serve as a LAN gateway and bridge for PC users to share time and other resources.

MACINTOSH

"Jack and Jill" Trial Delayed  
CUPERTINO, Ca. (ENR) — US District Judge Robert Aguirre has announced that the first phase — the licensing agreements dispute — of the trial of Apple Computer vs. Microsoft and Novell Patent and Trademark Litigation will not begin until August 14, 1995. Aguirre gave an explanation for the lengthy delay during a hearing in March. He announced that he is, "generally acknowledged" that the dispute between the three companies is "one of the most complex and difficult patent cases" he has ever seen. He is now reviewing the evidence and the legal issues involved. He will also be reviewing the evidence and the legal issues involved. He will also be reviewing the evidence and the legal issues involved.

Meanwhile, Apple is asking the judge to require a dismissal from the case, arguing that its impact because Apple's test results in Bristol's Fallfest. Apple has already declined to pay damages from another case for the same reason, but must consider it again. The hearing on that matter continued for September 9.

COMPUTER GAZETTE, Inc., San Jose, Ca., is working on its new Macintosh product, according to a COMPUTER RESEARCH JOURNAL. The world's largest software company has been one of the most influential in support of the Macintosh, leaving to side with MICRO, VAR and other methods for increasing packages.

Pa. has purchased 100,000 to 150,000 shares of the company's common stock, which is the largest order that has been placed, says C&D. The purchase price was approximately \$134,500,000. The new company will be called CMO Investment Review. New ratings are slated to be issued next month.

**Apple's new ApplePro Plus**  
CLIPPING: CA, (C) 1991 — With an innovative sense of style, and "look that's it" in doing all the past and future work, the ApplePro Plus is a new addition to the portable series along. Apple's new, famous A-series of processors in 68000, 68010, 68015, 68020, 68030, 68040, 68050, 68060, 68070, 68080, 68090, 680A0, 680B0, 680C0, 680D0, 680E0, 680F0, 68100, 68110, 68120, 68130, 68140, 68150, 68160, 68170, 68180, 68190, 681A0, 681B0, 681C0, 681D0, 681E0, 681F0, 68200, 68210, 68220, 68230, 68240, 68250, 68260, 68270, 68280, 68290, 682A0, 682B0, 682C0, 682D0, 682E0, 682F0, 68300, 68310, 68320, 68330, 68340, 68350, 68360, 68370, 68380, 68390, 683A0, 683B0, 683C0, 683D0, 683E0, 683F0, 68400, 68410, 68420, 68430, 68440, 68450, 68460, 68470, 68480, 68490, 684A0, 684B0, 684C0, 684D0, 684E0, 684F0, 68500, 68510, 68520, 68530, 68540, 68550, 68560, 68570, 68580, 68590, 685A0, 685B0, 685C0, 685D0, 685E0, 685F0, 68600, 68610, 68620, 68630, 68640, 68650, 68660, 68670, 68680, 68690, 686A0, 686B0, 686C0, 686D0, 686E0, 686F0, 68700, 68710, 68720, 68730, 68740, 68750, 68760, 68770, 68780, 68790, 687A0, 687B0, 687C0, 687D0, 687E0, 687F0, 68800, 68810, 68820, 68830, 68840, 68850, 68860, 68870, 68880, 68890, 688A0, 688B0, 688C0, 688D0, 688E0, 688F0, 68900, 68910, 68920, 68930, 68940, 68950, 68960, 68970, 68980, 68990, 689A0, 689B0, 689C0, 689D0, 689E0, 689F0, 68A00, 68A10, 68A20, 68A30, 68A40, 68A50, 68A60, 68A70, 68A80, 68A90, 68AA0, 68AB0, 68AC0, 68AD0, 68AE0, 68AF0, 68B00, 68B10, 68B20, 68B30, 68B40, 68B50, 68B60, 68B70, 68B80, 68B90, 68BA0, 68BB0, 68BC0, 68BD0, 68BE0, 68BF0, 68C00, 68C10, 68C20, 68C30, 68C40, 68C50, 68C60, 68C70, 68C80, 68C90, 68CA0, 68CB0, 68CC0, 68CD0, 68CE0, 68CF0, 68D00, 68D10, 68D20, 68D30, 68D40, 68D50, 68D60, 68D70, 68D80, 68D90, 68DA0, 68DB0, 68DC0, 68DD0, 68DE0, 68DF0, 68E00, 68E10, 68E20, 68E30, 68E40, 68E50, 68E60, 68E70, 68E80, 68E90, 68EA0, 68EB0, 68EC0, 68ED0, 68EE0, 68EF0, 68F00, 68F10, 68F20, 68F30, 68F40, 68F50, 68F60, 68F70, 68F80, 68F90, 68FA0, 68FB0, 68FC0, 68FD0, 68FE0, 68FF0, 69000, 69010, 69020, 69030, 69040, 69050, 69060, 69070, 69080, 69090, 690A0, 690B0, 690C0, 690D0, 690E0, 690F0, 69100, 69110, 69120, 69130, 69140, 69150, 69160, 69170, 69180, 69190, 691A0, 691B0, 691C0, 691D0, 691E0, 691F0, 69200, 69210, 69220, 69230, 69240, 69250, 69260, 69270, 69280, 69290, 692A0, 692B0, 692C0, 692D0, 692E0, 692F0, 69300, 69310, 69320, 69330, 69340, 69350, 69360, 69370, 69380, 69390, 693A0, 693B0, 693C0, 693D0, 693E0, 693F0, 69400, 69410, 69420, 69430, 69440, 69450, 69460, 69470, 69480, 69490, 694A0, 694B0, 694C0, 694D0, 694E0, 694F0, 69500, 69510, 69520, 69530, 69540, 69550, 69560, 69570, 69580, 69590, 695A0, 695B0, 695C0, 695D0, 695E0, 695F0, 69600, 69610, 69620, 69630, 69640, 69650, 69660, 69670, 69680, 69690, 696A0, 696B0, 696C0, 696D0, 696E0, 696F0, 69700, 69710, 69720, 69730, 69740, 69750, 69760, 69770, 69780, 69790, 697A0, 697B0, 697C0, 697D0, 697E0, 697F0, 69800, 69810, 69820, 69830, 69840, 69850, 69860, 69870, 69880, 69890, 698A0, 698B0, 698C0, 698D0, 698E0, 698F0, 69900, 69910, 69920, 69930, 69940, 69950, 69960, 69970, 69980, 69990, 699A0, 699B0, 699C0, 699D0, 699E0, 699F0, 69A00, 69A10, 69A20, 69A30, 69A40, 69A50, 69A60, 69A70, 69A80, 69A90, 69AA0, 69AB0, 69AC0, 69AD0, 69AE0, 69AF0, 69B00, 69B10, 69B20, 69B30, 69B40, 69B50, 69B60, 69B70, 69B80, 69B90, 69BA0, 69BB0, 69BC0, 69BD0, 69BE0, 69BF0, 69C00, 69C10, 69C20, 69C30, 69C40, 69C50, 69C60, 69C70, 69C80, 69C90, 69CA0, 69CB0, 69CC0, 69CD0, 69CE0, 69CF0, 69D00, 69D10, 69D20, 69D30, 69D40, 69D50, 69D60, 69D70, 69D80, 69D90, 69DA0, 69DB0, 69DC0, 69DD0, 69DE0, 69DF0, 69E00, 69E10, 69E20, 69E30, 69E40, 69E50, 69E60, 69E70, 69E80, 69E90, 69EA0, 69EB0, 69EC0, 69ED0, 69EE0, 69EF0, 69F00, 69F10, 69F20, 69F30, 69F40, 69F50, 69F60, 69F70, 69F80, 69F90, 69FA0, 69FB0, 69FC0, 69FD0, 69FE0, 69FF0, 69000, 69010, 69020, 69030, 69040, 69050, 69060, 69070, 69080, 69090, 690A0, 690B0, 690C0, 690D0, 690E0, 690F0, 69100, 69110, 69120, 69130, 69140, 69150, 69160, 69170, 69180, 69190, 691A0, 691B0, 691C0, 691D0, 691E0, 691F0, 69200, 69210, 69220, 69230, 69240, 69250, 69260, 69270, 69280, 69290, 692A0, 692B0, 692C0, 692D0, 692E0, 692F0, 69300, 69310, 69320, 69330, 69340, 69350, 69360, 69370, 69380, 69390, 693A0, 693B0, 693C0, 693D0, 693E0, 693F0, 69400, 69410, 69420, 69430, 69440, 69450, 69460, 694

The development program activities, which are being led by AppleLink for the VME, use DECnet for handling mail and AppleTalk for data-intensive transactions. A VME-based AppleLink Mail Routing Protocol simplifies the server, proxy services to use both kinds of connections to access Postscript printers, network management functionality, then both AppleTalk and DECnet networks. Additional software and hardware support on the VME support the SQL and CLN database server, support for Apple file system, a Document Interchange File Set document access standards for document interchange between Macintosh and VME, and

The conference came amid concern that Digital is about to make another go at the personal computer market.

market on the issue of compatibility. These numbers say DEC will control a personal computer based on the Micro VAX, but will not use the OS, Digital's own VMS operating system, and even, seriously, DEC. No company uses DEC.

**Top 200 U.S. Macs Installation**  
SAN FRANCISCO—The largest installed base of Macintoshes in the world is at the University of Michigan in Ann Arbor where 6,300 Macs make up half of all computers on campus. To verify MACTECH's claim, Apple announced the launch of a massive telephone survey involving 3,000 phone calls to nearly 400 Macintosh users around the country. Although universities ranked half of the 200 list with 26 total Macs, the program reports that the Apple campus is "by far the largest in both sheer phenomenon but an apparent case of overrepresentation," too late.

Among the top 10 private corporations, E.I. du Pont de Nemours & Co., a.k.a., South Carolina, with 1,000 manufacturing employees, 1,000 total FTE, and Northern Telecom, Research Triangle Park, North Carolina, with 1,450 manufacturing employees, 2,000 total employees.

Perhaps the most significant find was in Tennessee's Great Smoky Mountains National Park, where *Macronchus* made up a whopping 91 percent of all PCAs in one. That's 89 of 1,000 *Macronchus* comparisons, or just less than half of the facility's 1,800 members.

**Early Service to Clients**  
MOUNTAIN VIEW, Ca. (ENR) — An Oracle employee is making a big splash at MOUNTAINVIEW with a new computer-aided design program, Apple Computer's eDrawings, says a source at MountainView. It is an early model "Apple's Software Branch may be looking for a Pal," SULLIVAN WIREX notes. Richard Brown, president of the company, a listed budget and staff 210 employees and 85 programs, says the new significant feature is a new, new, new product on the line from the new 12 months. Inevitably enough, most of Clark's revenue is from AppleWorks, a program for the Apple II.

The magazine reports Apple will probably have a public stock offering in March within the next year that will enable the PCN funds to be converted into "public" shares that the fund could sell more easily.

General Computer Systems, Inc., has officially changed its name to DEC TECHNOLOGY. DEC, the name a confusion — several other companies are named General Computer. DEC makes MicroVAX minisystems including four processors and storage devices.

Apple Canada, Mississauga, Ont., announced that a new monochrome configuration of the Macintosh II computer will use CM 1200, a full monochrome memory expansion kit, will be available in Canada for \$200. Apple Canada also announced the Apple LaserWriter IIc Canadian retail price of \$419.95.

Clarke/Casade, Toronto, has announced that CIMA CAD will be available in Canada in the fourth quarter of 1988. See CIMA 1988 NEWS and 1987 seminars will come (South) for the first, and MacDraw II owners can upgrade to Claris CAD for \$1,000.

[illegible]





**Get Back To The Black**  
**MATHEMATICS, INC.** (908) 282-0000 says that its 1987 sales are up 10% from 1986, with a net profit of \$100,000. The company is now looking for a new location in the New York City area. The company is now looking for a new location in the New York City area.

**IBM** (914) 439-1000 says that its 1987 sales are up 10% from 1986, with a net profit of \$100,000. The company is now looking for a new location in the New York City area. The company is now looking for a new location in the New York City area.

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## BED-SPREAD Review

### Comparison Program for Bedspread QuickDraw/Draw II

OS/2, OS/2 1.0, IBM PC, AT, XT, PS/2, 286, 386, 486, 586, 686

This comparison program with its ready-to-use interface is the Perfect Bedspread Comparison Program. It is designed to help you find the best bedspread for your needs. It is an easy-to-use, easy-to-understand program designed for small business. The main program consists of: General Layout, For description of the program, General Layout, and General Layout. It is designed to be used by a single user or by a group of users. It is designed to be used by a single user or by a group of users. It is designed to be used by a single user or by a group of users. It is designed to be used by a single user or by a group of users.

#### System Requirements

Hardware and software requirements for the Bedspread Comparison Program are: IBM PC XT compatible computer with 640K RAM and 1024K hard disk. A parallel printer with graphics capability is also recommended. The system also requires a minimum of 1024K RAM. The system also requires a minimum of 1024K RAM. The system also requires a minimum of 1024K RAM.

#### Installation

1. Install the Bedspread Comparison Program on your hard disk. 2. Install the Bedspread Comparison Program on your hard disk. 3. Install the Bedspread Comparison Program on your hard disk. 4. Install the Bedspread Comparison Program on your hard disk. 5. Install the Bedspread Comparison Program on your hard disk. 6. Install the Bedspread Comparison Program on your hard disk. 7. Install the Bedspread Comparison Program on your hard disk. 8. Install the Bedspread Comparison Program on your hard disk. 9. Install the Bedspread Comparison Program on your hard disk. 10. Install the Bedspread Comparison Program on your hard disk.

#### How to Work

There are two main programs in the Bedspread Comparison Program: the Bedspread Comparison Program and the Bedspread Comparison Program. The Bedspread Comparison Program is the main program. The Bedspread Comparison Program is the main program.

spreadsheet and a table. Before you can use the Bedspread Comparison Program, you must first install the Bedspread Comparison Program. The Bedspread Comparison Program is the main program. The Bedspread Comparison Program is the main program.

#### Importing From Another User

The next step is to use the IMPORT program. It allows you to import data from another user. It allows you to import data from another user. It allows you to import data from another user. It allows you to import data from another user. It allows you to import data from another user.

#### Changes in The Work

However, QuickDraw/Draw II is not the only way to make changes. It is not the only way to make changes. It is not the only way to make changes. It is not the only way to make changes. It is not the only way to make changes. It is not the only way to make changes. It is not the only way to make changes. It is not the only way to make changes. It is not the only way to make changes. It is not the only way to make changes.

QuickDraw/Draw II is a powerful tool for making changes. It is a powerful tool for making changes. It is a powerful tool for making changes. It is a powerful tool for making changes. It is a powerful tool for making changes. It is a powerful tool for making changes. It is a powerful tool for making changes. It is a powerful tool for making changes. It is a powerful tool for making changes. It is a powerful tool for making changes.

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**SGA Systems Research Ltd.**

A Division of Paracomp Technology Inc.

# Pacific Medical Software User Group

a newsletter for the on-line medical community

Volume One Issue One

## USER GROUPS: WHAT THEY CAN DO FOR YOU!

Learning to operate a computer is like a comfortable vehicle that at the best of times. Typically if it means something what seems to be a fairly efficient medical practice into what could possibly turn into an uncomfortable daily annoyance, getting to the point where the computer system is working for you rather than the other way around means you have put past the steep learning curve of automation. Once again, we'll help you do just that.

Everyone needs help at one time or another. User groups have been formed to serve this very purpose. The monthly meetings, on-going seminars, discussion bulletin boards for remote conferencing with other users is primarily why user groups are formed. Satisfaction with the computer comes with frustration free productivity increases. Only by taking past those training hurdles will MDs and doctors be truly happy with their systems.

One of the main advantages for enrolling your fellow members in a user group is that the information provided is coming from an unbiased source. We will strive to make objective reviews available through the newsletter and training seminars, as well as regular monthly meeting speakers. We will be successful if we successfully the members make more informed decisions as well as get fully productive with your system.

Another key reason for belonging to a user group is that it will continue to exist for as long as there is a need for it. Consequently, many user groups have literally become "one-joke" user organizations for members whose hardware or software vendors are no longer in existence. This action gets support can be critical to medical offices as there is a major reliance with the long term survival of medical billing vendors. Are they doing well enough to handle a substantial amount of their membership, the medical practices? Are their software support firm willing to maintain the level of support required? On-going changes in government regulations requires an ongoing medical billing software product. Is your vendor there for the long-term?

Most user groups have members with a wide range of experience and expertise. The spectrum starts from the absolute beginner, those who have a working knowledge of their system to people who are "power" users. Often user group members' expertise

breaks down into specific types of applications—word processing, telecommunications, spreadsheets, data base management, etc. They can offer a wealth of information on both your present applications and requirements. Again, the information is coming from the user community and not the vendor.

Speaking of vendors, while considering one company's product or another, if you are from that you are a member of a user group, chances are they will be more detailed and considerate in their demonstrations in hopes of positive referrals. Also, many vendors have discounts or special prices for user group members.

Once you have decided on a particular purchase then it is always a good idea to consult others to see if a purchase is warranted or whether you

choose. Buying groups are considered to be the strongest negotiating force in business today.

On a closing note the Pacific Medical Software Users Group will also be forming "Special Interest Groups" (SIGs) within our membership structure. These will be limited from those people who have chosen a similar software package. It is hoped that the vendors will participate in these separate meetings as to greater communication between users and their ongoing development and evolution of the product. Any recognized problems or software limitations may be more quickly addressed if presented by the SIG group. This will allow the vendor a quick feedback of their users needs as to to develop next priorities.

Karen Newbery  
NMUG Vice President

### Dear Doctor/Medical Office Assistant:

This newsletter started as an introduction to the Pacific Medical Software User Group. We are a non-commercial user group dedicated to serving the medical community in three functions: to inform, to help, and to support. This current government billing requirements have created a real pressing need for an independent user-support group for new medical software users. We will be providing the following services to the membership:

- ☐ Monthly meetings at the BC Club which will include a dinner to inform us to you of interest in the membership.
- ☐ An informative monthly newsletter with a variety of articles from users, government and suppliers.
- ☐ Various low cost seminars on topics of interest by knowledgeable speakers & experts. The program list of seminar topics include: "Understanding Medicare", "Hard Disk Management", and "Reclaiming Your Data: What are your Alternatives?"
- ☐ Sponsorship of various additional activities such as the Medical Software Exhibition, a software trade show featuring many of the approved MD software vendors.
- ☐ Access to the NMUG electronic bulletin board system which we plan to stock with over 100 Mb of free public domain software accessible through your modem.

The annual individual membership dues are \$35.00. We hope that you take advantage of this opportunity by joining. More important, we hope you participate to make it a valuable component in your automation knowledge and training. Without subscription article if you have valuable experience that will make it easier for someone else in their location to overcome billing.

If you have any suggestions, feel free to call me at 336-6210. We look forward to your participation in the user group activities. Happy computing!

Yours truly,

*Diana Arndt*

Diana Arndt  
NMUG President

P.S. Don't forget to apply for a membership for free admission into the Medical Software Exhibition.

### THIS ISSUE:

User Groups: What they can do for you!

How to Evaluate Medical Software

Medical Software Exhibition

Electronic Bulletin Board System: and Why use them?

### TECH TALK:

Menu Programs

Understanding File

Evaluating Hard Disks

Video Card Terminology

Floppy Disk Drives Explained

### NEXT ISSUE:

Modem Review

Optimizing Tips for Your Hard Disk Drive

Software Vendor Association Update

Do I need Power Protection?

Software Exhibition Exhibitor Profiles

and much more...

## Evaluating Medical Software

**SCHEDULE:**

**MSUG MEETINGS:**  
All monthly meetings are held at 7:00 p.m. on the B.C. Club 550 Pacific Boulevard W. Vancouver, B.C. (parking below the building)

**INITIAL EVENT:**

Medical Software  
Exhibition  
September 18th  
10:00 a.m.-5:00 p.m.

**FIRST MEETING:**

October 14th  
7:00 p.m.  
Application for  
Membership at the  
door

**UPCOMING SEMINARS & EVENTS:**

"Understanding Modems"  
Dale Jackman  
Technical Manager  
BC Club  
October 27th  
7:00 p.m.  
(Please reserve)

"Backing up your Data: What are your alternatives?"  
Dale Jackman  
Technical Manager  
BC Club  
November 10th  
7:00 p.m.  
(Please reserve)

**Pacific Medical Software User Group**

609 West 8th Ave.  
Vancouver, B.C.  
V5Z 1Z3  
(604) 736-5829

Annual Individual  
Membership: \$55.00

Let me prove this to you by saying that you may have specialized needs relative to your discipline that will determine your ideal software choice. Consider the following as a general guideline applicable to any specialized high support package. I consider this appropriate for medical billing software. Other aspects unique to medical software will be expanded upon in future issues.

**Long Term Commitment**

Look for a vendor with a long term commitment to your industry. If they are in it for the quick profits, beware. They should have a track record in specialized software, not selling stock, real estate etc.

I think it is safe to say that a long term commitment should be demonstrated by past performance, industry reputation, and the credibility of the vendor. This is true for any specialized software program, as the end user needs long-term support. It is even more critical in medical billing software. An on-going product is required in the changing government regulations and user needs.

**Vendor Financial Stability**

Financial stability is crucial. Because the majority of the medical practitioners will have purchased by April 1984, you don't want your vendor to disappear. Those who have major investments tied up in software development, could become bankrupt. Look for diversification or related products. This will allow them to keep active or change in the marketplace. Look for depth in the company. Hopefully it isn't a one person show. That means you are at greater risk in relying on them. That again you needly get better service with a smaller company as you are, hopefully, very important to them.

Look for a program that is non-proprietary. If the vendor does want to operate, you can keep yourself up-to-date on the on-line changes as they occur. If you have any queries about your vendor look for a source code clause that will release the code to the end users if they go out of business. This will allow you to get your enough behind programmer to make changes if they are required. If you don't have any queries ask for it anyway. You may be glad that you did.

**Problem Free Software Operation**

The computer software is term BUG is not a pleasant one. Nobody enjoys them, especially the user. Bugs are the term used for software glitches. When the software doesn't behave as it was designed to, it has a bug in it. This can be serious, especially when it affects your billing data.

Software development takes place within the context of a programming language. Some languages are more

difficult to debug than others. The newer languages tend to be modular so that the defective components of the program can be analyzed quickly. That is the theory anyway. All things being equal, find day event and power to get systems developed in BASIC or COBOL are more difficult to debug than, say, C or even a development tool like dBase III.

From a user's point of view, look for a system that has many happy end-user references. Ask the sales or support executives to show you the hard end of their computers. Your user will probably say there are no unhappy customers.

**Quality Computer System Components**

If you without saying that the equipment you buy will perform only as well as it's specifications. If you buy a cheap share you should expect floppy drive problems, hard disk crashes and filey components. What's not to be said here is the quality of the computer may have to be stepped out. How I learned you enough? Good, because I don't like saying I told you so.

Look for top quality components, especially in the hard disk drives. Get a more brand, there are at least a dozen good ones to choose from. They don't always cost that much more. But they are always going to hold their value and cause less grief. In most cases, you get what you pay for.

**A Thorough Hardware Service Contract**

When your equipment you choose, you will want an excellent service contract. Look for on-site service of 4 hours or less. You don't want to be down for any longer than a day. Ask for replacement equipment if it takes any longer to fix. Third party support, such as Terco, Bell Technical, or Honeywell. Put in the name, but look to your vendor for the house technical staff. Even though he may not be responsible for the warranty you will want to be assured that they can hand to those in-between problems that occur.

**Ongoing Knowledgeable Software Support**

Look for software vendors who are software experts, rather than support vendors. You want to be able to call

and get someone who knows the problems you face. Software support should include:

- Telephone support when you have a quick question
- A ready and willing vendor who will rush out and remove some mess you managed to get into
- On-line support so that your vendor can log onto your system and troubleshoot directly from his office

This should be able to control your computer through specialized communication software. This is optional but useful to have. It means the vendor can immediately troubleshoot your particular problem.

**Installed Users Both In Numbers, Size And Age**

Look for a vendor with an installed base of users. See whether these users are in specific type of practices, larger clinics or smaller practices. This is an indication of who they are meeting with their software features. Look for a vendor that is geared to long term support here. If they are making money supporting you can be assured that they will continue to do so.

**An Easy To Use Clean Software Design**

The Medical Office Assistant will love you if you will let her get involved in the design and final design. After all she is the one using it. Take some time to get a package that is easy to understand, easy to learn and easy to train others later on. If the design is not understood at after the design, the buyer beware. If it is hard to train her now, it will be harder to train her replacement if she leaves.

A clean design refers to a meaningful and tangible aspects of its user interface (menus, more popular). It is easy to see where you are in the program at a glance. Are the screen designs neat and uncluttered? Are they similar in your past systems? Are all aspects of the software consistently designed?

**A Reasonable Price**

You should pay a reasonable price for the software. Expect to pay ongoing support fees. It will be well worth it.

Dale Ariel  
MSUG President



Pacific Medical Software User Group  
Announces the  
**Medical Software Exhibition**

Meet the approved BCMA software vendors. Find out which is the best billing system for your practice!

**This Exhibition is NOT to be missed!!!**

**Monday, September 19th, 1988**

**10:00 a.m. - 9:00 p.m.**

**British Columbia Club**

**#10- 750 Pacific Blvd. South**

**(on the old Expo site)**

**Free for PMSUG members  
(applications at the door)  
or \$5.00**

**For PMSUG information contact:  
Kevin Grawley or Daven Ariel at 736-5039**

**Why join the Medical Software User Group?**

**Informative Monthly Meetings**

We welcome you to share our products and techniques with several speakers and practitioners. Each meeting will offer a great introduction and overview of our working with domestic billing. Featuring the Medical Software Exhibition is just an example of what the User Group is doing to help doctors make informed decisions.

**Specialized Training Seminars**

Our special seminars will cover important aspects of running a successful automated medical office. These include getting the most out of software, back up procedures, and hard disk management. These seminars are offered at a small reduced cost to members.

**Electronic Bulletin Board Access**

The User Group is sponsoring a Medical Electronic Bulletin Board for membership use. This will have over 200 Mb of free public domain software as well as software specifically geared for medical offices. For more on all the latest features on that you can please write your opinion and discuss different issues of computer automation.

**An Objective Monthly Newsletter**

The monthly newsletter will bring important information to you on a no price basis. We welcome your articles if you have information or knowledge valuable to the members learning curve in becoming successful in our computer company.

**YES**

**I wish to join the Pacific  
Medical Software  
User Group.**

980 West 8th Avenue, Vancouver, B.C. V5Z 1B4 (604) 736-5039

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Please enclose a cheque or money order for \$ 25.00 for a full one year membership made payable to the Pacific Medical Software User Group.

**Why use the MSUG BBS?**

A BBS is a communication system consisting of a computer hooked up to a phone line with a device called a modem that can be called by other computers and used as a on-line message and file storage database.

First of all, BBS stands for "bulletin board system" and as such can be similar in some ways to the ones we find on our office walls. A lot of messages, usually organized into various topic areas, are posted by the users of the system for others to read. What makes it so different is the ability to post a question and receive a direct answer from one or more BBS users, not to mention the cheerful round-table chitchat often develops among persons of similar professional interests.

User group BBS systems generally focus on self help and the passing along of useful hints. Novice users will quickly find plenty of useful tidbits posted by the more knowledgeable. In turn, as they gain knowledge, they will find that some of the questions posted can be answered by them and in doing so return some of the benefit they received earlier.

BBS use in North America has grown to the point where there are now tens of thousands of the systems available. Many of them are joined together in a variety of fashions enabling people to move messages around various parts of the globe for extremely low costs. Most BBS systems have one or more themes or concepts, depending on the interests of its owner or users, from games to desktop publishing, hair salon and various political and health interests.

Our BBS, the MSUG, is designed around medical automation. The BBS is divided into two areas; Files and Messages. The Files Menu is for the storage of public domain (free) programs, text files and other useful items that you can take and transfer to your computer. Next time we will walk you through the procedure of logging on with your equipment in the meantime we are updating our BBS with a 500 Mb CD ROM drive.

These CD ROM drives are ideal for archiving large amounts of information for future reference. Medical diagnostic referencing systems use them because of their large storage capacities.

Using the MSUG BBS is probably the first logical step in taking advantage of your on-line equipment. It will help your learning curve and accelerate the attainment of optimum fun on your computer.

Dale Jackman, MSUG BBS Manager

## Tech Talk

## Menu Programs

No matter how you look at it, you will always be doing more than one thing at your computer. Even if after electronic billing the only thing you do is back up your valuable billing data periodically. Relying on your hard drive to supply or a tape drive will require a degree of proficiency at getting around your system and knowing how to do a backup. However if you have a menu program, you can automate this whole diagnostic but necessary process.

You will probably come to consider menu programs a practical necessity.

These available programs can save time by automating numerous keystrokes in one keystroke. More importantly, they can save you grief and frustration. If you don't know how to back up a hard disk drive, chances are you won't do it, risking your disaster. With a menu option called BACKUP you can't go wrong.

There are many alternatives to menu software. The leaders are Xerox, Direct Access, and Norton Commander. My favorite is Lazy Beans because of its generous controls and log files. Log files tell you how much time was spent on each program. There is even a freeware menu software called Aabel! Show your reader show you a few. You will probably come to consider them a potential necessity.

## Upgrading Files

**W**hen you finally do that inevitable action, delete a file accidentally, don't despair... That is if you have one of the many handy **Unistore** Utilities. Norton Utilities and PC Tools, two leaders in this area, come to mind and are well worth a look just on their own. That is not the only function that these programs are capable of. PC Tools has an excellent backup program, which is far superior to the DOS backup system.

When you accidentally delete a file you must remember to stop what you are doing right away. If you continue, you run the risk of putting whatever new files you create on top of your deleted one, since the computer now thinks that disk space is available. When you delete a file, whether accidentally or not, the computer only changes one character in the drive directory information: These files are Deleted instead of present.

Therefore if you don't want to be waiting for your reader to translate it for you, cut one of these attitudes.

## Evaluating Hard Disk Drives

**A** hard disk drive is, in fact, several metal plates that spin at extremely fast speeds. Magnets on heads, moving across the plate surface, read magnetically stored information to its memory. The drive capacity to store information is measured in millions of characters of information. Therefore a 20 Mbytes hard disk drive can store 20,000,000 characters of program and data.

The biggest limiting factor in your computer's performance and reliability is the hard disk drive. Unlike electronic components, which can last virtually forever, hard disk drives are mechanical devices that are prone to failure. But screen remapping requires them, so read on if you wish to learn how to evaluate them intelligently.

Hard disk drive speeds are usually measured in milliseconds of access time, i.e. how much time does it take to find information on your hard disk drive. This does not reflect the speed with which it can put your stored data into memory to make it usable for you as the operator, nor is it a measure of reliability.

Unlike electronics, which can last virtually forever, hard drives are mechanical devices that are prone to failure.

A good hard disk means time is in the neighborhood of 30 mil-  
liseconds or less. To further  
evaluate your system you must look  
at how efficient the hard disk con-  
troller card is (which, for now, is  
disruptive of what it does). The  
two most important aspects to con-  
sider here are the interface factor  
and the data transfer rate.

The interface factor represents the ratio of the number of buses a disk drive must spin to read a track of the hard disk into memory. A 2.1 interface means the disk spins twice to read one full track of information. An inexpensive controller has a 2.1 interface at most, whereas the newer faster controllers are 3.1 or 3.2. Theoretically the best interface would be 1.1, but sometimes this can create some potential problems between the remainder components.

The data transfer rate measures the amount of time it takes to transfer data, once it is found, into the computer's electronic memory. It is usually measured in thousands of characters per second. The lower the interference and the faster the

data transfer, the factor poor computer's performance. Look for values in and around the 300,000 range for a good mid-priced machine.

How to measure reliability? There are no such things as the perfect hard drive (ugh - I bet you look for the MTBF rating of 20,000 hours or more. MTBF means "Mean Time Between Failures". Something you don't want to experience. It is an average that minimizes the risks of the drive design and testing. That rating is not a guarantee. Pay for the difference, hard disk drives are not the place to gamble.

One last thing to look at is the mechanism for moving the bands over the tracks. Cheaper drives use stepper motors which run better and are not as reliable as a voice coil drive. The voice coil is an electronic system for advancing the read/write head directly to the track where your data is stored, rather than "stepping" from track to track.

In a hurry, look for voice coil drops with fast access times of 20 milliseconds or better, MTBF of 25,000 hours and 2+ or 3+ channel interferences. Ask for a high a transfer rate. It will impress the salesman. A word of advice, a cheap drop is not worth it. You can pay for it now, or really pay for it later.

## Video Terminology

**V**ideo cards are the strongest connection between computer and your screen. All the confusing acronyms related to the various video standards can be rather confusing and intimidating for all

When IBM first introduced the Personal Computer (PC), they gave the computer user two choices, the color graphics adapter (CGA) which allowed color and graphics, but lost text clarity, and the monochrome display adapter (MDA) which gave you sharp crisp monochrome text but poor graphics.

How much is enough? Most medical personnel will be happy on a Hercules-compatible video card and an amber monitor.

Like any name a smaller company, Hercules Corporation, which said that they would do better and proceeded to do so. They introduced the Monochrome Graphics Adapter which became the Hercules standard, and thus the question is if Hercules overtook?

How much is enough? Maps without personnel will be happy on



a Hercules newspaper video card and an audio monitor of reasonable quality. If cytostain is a problem you may want to try one of the new paper white monitors.

## Floppy Drives Explained

Does your system have 1.2MB, 360K, 720K, or 1.44 formats? 3.5" or 5.25" disks? It can be pretty discouraging to make out a way through the labyrinth. To make a long story short, your biggest save for three drives is a 3.5" 1.44 format. It's the most common and your hard drive is either computers in your office, or in a safe place for backup purposes. The highest the storage the better, even having to stick 100 disks, or more, in your office. If you're not sure, you want to back up your hard drive. If compatibility with other machines in your office is not a problem, go with the 1.2 Mb, 5 1/4" drives that are standard with most new computers. The 3.5" disks are the most common and software is more available in that format is

response. When the AT microcomputer (80286 processor) finally was introduced, they were able to make the AT work using a higher data rate for probing the information on the disk. That gave us the 1.5 Mbs 512K and floppy disk drive. They also made the AT work with the 20MB disks, but not always reliably. The problem occurs when the 20MB diskette was formatted on the 1.5 Mbs floppy disk drive. The AT will not read the diskette. The format command (FDISK) says, A, N will format it as a 20MB floppy, although it will not be able to read it. The AT will not read the floppy since it can't 1.5 Mbs disks. I am sure because there is only 20MB capacity on the diskette. To minimize problem of storing 20MB diskettes, some AT microcomputers, some cases add an additional 20MB floppy drive to their AT. You may want to do the

Along came the laptop computer and the TOSHIBA 3.5-inch floppy disk drive. It was a real improvement over the 5.25-inch format as they were handy to stuff in pockets and not as big porous projectiles against rowdy parents and hospital administrators.

IBM has since accepted this type of disk as the standard, except that they doubled its capacity to 1.4 Mbs. These drives can also be added to XT's and AT's by adding a separate floppy controller card. We will, no doubt, see more floppy drives as time goes on. Change seems the only constant in the computer field.

### Die 16-Jahreswende Technischer Maschinen

## COMPUTERIZATION OF BC's PHYSICIANS:

Medical Billing Goes On-line

The BC government through the Ministry of Health, has implemented a new computer system designed to automatically bill all physicians in large volumes the Ministry's medical fee schedule. The new system is called TELEPLAN II and is designed to replace the manual mail bill and day sheet process that physicians use for submitting Medical Services Plan (MSP) claims to the province.

Under TELEPLAN II physicians will submit electronically through a modem with the MSP insurance in Victoria. Once they have submitted they will receive all day sheets, billing three claims (inpatient, hospital care, repeat outpatient visits, and repeat health-care) submissions of the claims for inpatient, to submit to the processing of claims the physicians will also be able to do health care billing claims submission which will be in the office the next day or do online slightly slower on a system which the patient is in the office.

### Future Features

The main purpose for a system of this nature is to simplify the processing of the claims. Under the new system, claims will be submitted daily and additional for areas daily with no separate time being made as a more timely solution. Currently, the claims are processed from the MSP cards and are through into claims on a bi-weekly basis, thus resulting in a long period of time to receive the claim.

The Government system which will be available in 1989 the physician may also use a service bureau to process the existing MSP claims (claims from a Private Computer for the medical office which has been set up, interface with TELEPLAN II).

### Many Variables The World

Physicians all have to cope with the challenges of making some business decisions on what to do. There are currently many and some variables when making decisions in some physicians' cases. With a decision of computerized by early next year, physicians are being faced with many variables trying to do their jobs.

To assist physicians in making their way through the maze of hardware and software, the University of British Columbia's Computer Science Program Center for Continuing Education and the Division of Continuing Medical Education have a series of seminars called "Computers in The Medical Office: A Practical Series." These seminars cover topics such as Computer Laboratory Management, Working the Medical Office, Accounting, Medical Office Systems and Database Concepts. The new series of seminars open which this year's school of "Computing Your Medical Office: Doing the Business Evaluation."

### Understanding the Best Technology

One of the current problems many physicians have, is just to keep a business evaluation. They must first understand the needs of the business environment. It is important for the physician to at least know the factors they need to look for such as: "Is a computer? How does it make sense? How do you make sense? What is a computer?" etc.

### From Steps to a Successful Purchase

In many instances, the steps to a successful purchase of a computer system are often first and foremost, the needs of the business environment. It is important for the physician to at least know the factors they need to look for such as: "Is a computer? How does it make sense? How do you make sense? What is a computer?" etc.

### 1) Requirements Gathering

(1) Evaluation of Software

(2) Evaluation of Hardware

(3) Implementation Plan

### 2) What Do We Need and What Do We Want?

The first step is to establish some goals and a scope for your computerization project. How you think about what scope of your business you want to computerize.

Having decided on the scope you should now decide your staff as the person of working with who you need and what from the new system. A good starting point for it is to look at how you often operate today. It has been my experience that at least 80% of a computerized system is usually taking what currently does today and placing it on the computer. Many people do not realize that it is if they do not have a computer in their office, they will have "system." These initial system have provided some software over the years to provide the best possible system available. With the addition of the computer the "new system" will probably not be based on a system of value to the business, but on a system of many of the same principles.

### 3) Evaluate the Software

During this step, your staff will be required, you are now considering the steps to



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# MEDICAL BILLING SHOULDN'T BE A MAJOR OPERATION

REGENT  
COMPUTER  
SERVICES  
OFFER  
FLEXIBILITY  
AND SELECTION —  
TO FIT  
*YOUR* NEEDS

**T**elenet Medical Billing Network can be compared to the B/C Systems Corp SIMPC based Teleplan II communications system. But that's not really fair. Although they both provide a similar communications network for medical offices, Telenet is faster and less expensive than Teleplan II, and offers electronic

mail as well. Best of all, Telenet is responsible to the doctors it serves, not to MSP.

**R**egent Service Bureau serves the low volume practitioner in the computer age. All billing must be submitted to MSP by computer. In a small office, this can mean a total



**SUPERIOR**

John W. McQuiggen  
Representative

IBM 1000 XT, XT000A, 286, 386, 486, 586, 686, 786, 886, 986, 1086, 1186, 1286, 1386, 1486, 1586, 1686, 1786, 1886, 1986, 2086, 2186, 2286, 2386, 2486, 2586, 2686, 2786, 2886, 2986, 3086, 3186, 3286, 3386, 3486, 3586, 3686, 3786, 3886, 3986, 4086, 4186, 4286, 4386, 4486, 4586, 4686, 4786, 4886, 4986, 5086, 5186, 5286, 5386, 5486, 5586, 5686, 5786, 5886, 5986, 6086, 6186, 6286, 6386, 6486, 6586, 6686, 6786, 6886, 6986, 7086, 7186, 7286, 7386, 7486, 7586, 7686, 7786, 7886, 7986, 8086, 8186, 8286, 8386, 8486, 8586, 8686, 8786, 8886, 8986, 9086, 9186, 9286, 9386, 9486, 9586, 9686, 9786, 9886, 9986, 10086, 10186, 10286, 10386, 10486, 10586, 10686, 10786, 10886, 10986, 11086, 11186, 11286, 11386, 11486, 11586, 11686, 11786, 11886, 11986, 12086, 12186, 12286, 12386, 12486, 12586, 12686, 12786, 12886, 12986, 13086, 13186, 13286, 13386, 13486, 13586, 13686, 13786, 13886, 13986, 14086, 14186, 14286, 14386, 14486, 14586, 14686, 14786, 14886, 14986, 15086, 15186, 15286, 15386, 15486, 15586, 15686, 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## A User's Guide to Computer Training Centres

### Why The Need for Training?

Thanks to the pace of computer innovation, it will be hard to find a job in the future that does not require a computer to be successful in that industry.

Thanks to Paul Symphonic of the Access Centre, we can see a glimpse of what an exciting experience it will be to use computers to do more interesting and useful things. As a result, many of the people who are already using computers are looking for more ways to use them. They are looking for more ways to use them to do more things. They are looking for more ways to use them to do more things. They are looking for more ways to use them to do more things.

The Service of Access Centres Available Can Be Most Helpful. Many people and private training institutions and computer schools have realized the need for training in the future. They are looking for more ways to use them to do more things. They are looking for more ways to use them to do more things. They are looking for more ways to use them to do more things.

Now, at the Access Centre, the user's guide to computer training is available. It is a guide to the user's guide to computer training. It is a guide to the user's guide to computer training. It is a guide to the user's guide to computer training.

### Basic Questions To Ask Potential Training Centres

One question that should be asked is: "What is the user's guide to computer training?" The user's guide to computer training is a guide to the user's guide to computer training. It is a guide to the user's guide to computer training. It is a guide to the user's guide to computer training.

### Professional Requirements For A Good User's Guide

Before using a computer, the user should be aware of the user's guide to computer training. The user's guide to computer training is a guide to the user's guide to computer training. It is a guide to the user's guide to computer training. It is a guide to the user's guide to computer training.

Often, a computer user will find that the user's guide to computer training is a guide to the user's guide to computer training. The user's guide to computer training is a guide to the user's guide to computer training. It is a guide to the user's guide to computer training. It is a guide to the user's guide to computer training.

### Let The User's Guide

Let the user's guide to computer training be a guide to the user's guide to computer training. The user's guide to computer training is a guide to the user's guide to computer training. It is a guide to the user's guide to computer training. It is a guide to the user's guide to computer training.

### Final User Training Centre Visit

A final visit to the user's guide to computer training is a guide to the user's guide to computer training. The user's guide to computer training is a guide to the user's guide to computer training. It is a guide to the user's guide to computer training. It is a guide to the user's guide to computer training.



Students go to their study at the Access Centre.

They go to their study at the Access Centre. They go to their study at the Access Centre. They go to their study at the Access Centre. They go to their study at the Access Centre.

### What and What Do You Teach?

What and what do you teach? What and what do you teach? What and what do you teach? What and what do you teach? What and what do you teach? What and what do you teach? What and what do you teach? What and what do you teach?

### How Long Is The Course?

How long is the course? How long is the course? How long is the course? How long is the course? How long is the course? How long is the course? How long is the course? How long is the course?

### How Many Students Can The Course Take?

How many students can the course take? How many students can the course take? How many students can the course take? How many students can the course take? How many students can the course take? How many students can the course take? How many students can the course take? How many students can the course take?

### What Is The Student's Teacher Role?

What is the student's teacher role? What is the student's teacher role? What is the student's teacher role? What is the student's teacher role? What is the student's teacher role? What is the student's teacher role? What is the student's teacher role? What is the student's teacher role?

### What Kind of Computer Are You Using?

What kind of computer are you using? What kind of computer are you using? What kind of computer are you using? What kind of computer are you using? What kind of computer are you using? What kind of computer are you using? What kind of computer are you using? What kind of computer are you using?

employment.

McDOE based success estimates on the ability to attract emergency use in the large medical beds of their hospitals, and the no large medical beds will be built in the coming decade in Vancouver. It will depend on government and hospital decisions to provide in various beds in the hospital sector. Although the hospital sector continues to expand, it is not clear how much more expansion is likely to be. It is not clear how much more expansion is likely to be. It is not clear how much more expansion is likely to be.

**Learning to Live** The training designed by Macquarie management has been aimed at senior officers of large, multinational companies. Advanced Computer Designers The training is aimed at senior officers of large, multinational companies. Advanced Computer Designers The training is aimed at senior officers of large, multinational companies.

**Is The Course For You?** Increased qualifications in word processing skills are a valuable asset to companies. The Computer Plus, a two-day course, is designed for those who are interested in learning more about the computer. The course is designed for those who are interested in learning more about the computer.

**Will the Course Give Me a Job?** Many people are concerned about the availability of jobs in the field. The course is designed for those who are interested in learning more about the computer. The course is designed for those who are interested in learning more about the computer.

**How Good Is The Employment?** If the company in the training sector does have enough emergency employment, it is not likely to be a problem. The course is designed for those who are interested in learning more about the computer. The course is designed for those who are interested in learning more about the computer.

**After the Course is Over** Finally, the course is designed for those who are interested in learning more about the computer. The course is designed for those who are interested in learning more about the computer.

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**Senior Vice President** The course is designed for those who are interested in learning more about the computer. The course is designed for those who are interested in learning more about the computer.

**There Must Be 50 Ways To Learn Computers** The course is designed for those who are interested in learning more about the computer. The course is designed for those who are interested in learning more about the computer.

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**Can't Find** The course is designed for those who are interested in learning more about the computer. The course is designed for those who are interested in learning more about the computer.

**Conclusion** The course is designed for those who are interested in learning more about the computer. The course is designed for those who are interested in learning more about the computer.

**WINSTON COMMUNITY COLLEGE** The course is designed for those who are interested in learning more about the computer. The course is designed for those who are interested in learning more about the computer.

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## The Expert System Bonus: Using AI to Train People

## In Artificial Intelligence Research Projects

There was an article in the New York Times last month concerned with artificial intelligence. It was written by a philosopher well-known to be dismissive of the viability of AI research. The philosopher observed that such an artificial intelligence is possible just if it is impossible to manufacture a machine that could completely simulate all levels of the human brain. He's right. And he's wrong. Consider the analogy:

## For All Details and Inquiries

As a party at UBC, a mathematics student and an engineering student were talking with a professor. Across the street, an attractive woman was sitting in the hot sun, the flame of their hair catching the professor's eye. "If you could go half the distance between you and this woman, and then go half the remaining distance again, and again, how long would it take you to reach her?" The student on the street said: "It was the first to respond: 'Oh, that's easy! It's a word game, you don't even have to always go half the distance to go to her! In fact, the response is different responses. That may be true, but, in fact, 'half' is a game enough for all my money and I suppose

1. Take the engineer's approach. The philosopher of 19th Century is right in saying that a machine could not be built. But he is wrong in saying that AI requires a premise. We can learn to make the best of 1980's technology in developing applications without AI prerequisite. There are many well-defined areas of human expertise that can be simulated by computer processing. AI exists. Our efforts in building expert systems for the telephone company fall in that domain. See Kenneth Kincaid for the details.

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But, there are two things capable to a company is completely ready the formula for their expansion. In the fall of 1987, a Canadian telephone company made the decision to develop an enterprise system modeled on the SAP/3 system required by any such potential.

**Telephone Company Implements All System**  
The telephone company has implemented the All System, which will allow customers to use their own equipment to make long distance calls.

The debt personnel are responsible for analyzing available funds (payments on lifeboats) first. Once the debt personnel have determined the status of a lifeboat, they initiate the task of having the premium in use of insured departments in the lifeboats company. For example, if a debt person analyzes a boat and determines it is under a debt to a bank, they would request the premium to be paid by the bank insurance company.

[illegible]

Test Bank Questions: Support Team (TWT)

There will be several aspects about the diagnosis, namely a problem that originated in was a good candidate for a knowledge-based system. The user does not believe falls in the category of diagnosis. Many successful diagnosis systems have already been built using the knowledge-based approach. A detailed task analysis of the process necessary for the user may person had been accomplished but will be discussed. Once a knowledge base was created, resources



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Looking at the task of enforcing sensible limits, it is apparent that the problem is procedural in nature. A first PRISM challenge could be accepted that would share every step and every question in full, and persons would need an answer. Moreover, for this preliminary diagram is large enough, the programming is with a traditional algorithmic programming language (like Pascal) would be proposed. Not only would the training of several generations become necessary, but it would be very difficult to finally to enhance the complexity.

It was decided that a knowledge-based approach would be applied and, further to that, a commercially available expert system shell would be used to implement the system. The use of an expert system shell can dramatically shorten development time. For this project, the LISPAL 3 expert system shell from Information Resources, Inc. was selected. This development shell consisted of subprograms that carry out such actions as knowledge engineering, an instructional diagnostic, and logic execution.

### Components of A Knowledge-Based System

1) A wire transfer should only be processed in the case and should be sent to the bank.

44. An information system that controls the accounting process.

Like Test Task ONE, you need to add one more component. In

Two Goals 2017 approaches the task of training 200 death personnel by providing the trainer with case studies based on actual adolescent law facts. To accomplish this, a grouped support program had to be written around the knowledge base to report back the training session.

## Falling In All Together

To implement Task Desk (TD), we developed an end prototype and validated it before it is the final system. The method is particularly useful in the development of knowledge-based systems by several reasons. First, we did not work with the TD. Next,

before, it was impossible and we found in literature to mean to provide. The first prototype was ready in two months. It was useful in demonstrating in the knowledge capture the conditions the system would have. It also showed the experience and a new change in regard of them in designing the full-scale design team. Additionally, the prototype showed what the system design team needed to be worked in accordance the special functions of the LPVFL system.

The use study experts were encouraged about their test data outcomes.

The knowledge expert simulated the interview results and  
 also for the LPEIL. Knowledge base.

The knowledge segment around the knowledge base is composed by areas and modules core knowledge.

The whole process was repeated several times each week resulting in a more extensive and efficient knowledge base. The instructional approach varied surprisingly well. In the first instance of knowledge networks with the experts, we instructed them as well as the general public they would follow the same learning facts. We assumed that we could not present these objectives for

Handled over 100 persons of various faiths extremely respectful of their social mores.

Following the recommendations in 1970 regarding the continuing use of the *Journal of the American Academy of Religion*, the editors agreed to try to make the *Journal* "less of a journal." The *Journal* was to be more of a forum for the exchange of ideas and the presentation of new and important research. The *Journal* was to be more of a forum for the exchange of ideas and the presentation of new and important research. The *Journal* was to be more of a forum for the exchange of ideas and the presentation of new and important research.

## 12th Avenue

The system has several advantages. It is knowledge-based, not "rules-on-a-tree" pushing down through the analysis and solving. That is, what is to be constructed is focused, whereas the system knows less. In solving tasks, the system can ask "Why?" and the system will explain why the required information is necessary for solving the problem. Thus, it is more adaptive than most, because the system can use the means of solving the current goal to solve the problem.

[illegible]

The First Data Development Program has a great reputation in an agency's system, & it usually sets a well-defined precedent for the bank's credit policy in knowledge-based modeling. It is a representative of the growing impact of expert systems in corporate credit today. Eighty percent of the Fortune 500 companies are reported to already report expert systems. Arthur O. Little Management Consultants in St. Louis is quoted as saying that 82 percent of the Fortune 500 use the data collected in their systems and will increase \$2-3 billion by 1990 and \$10-15 billion by the year 2000, & it predicts the fastest growth in expert systems will be in the next two years in such areas as: **1. Marketing;** **2. Sales;** **3. Finance;** **4. Production;** **5. Engineering;** **6. Knowledge-based;** **7. Training;** **8. Personnel;** **9. Manufacturing;** **10. Customer Service;** **11. Quality Control;** **12. Building design systems;** **13. Writing code for other applications;** **14. Scheduling manufacturing jobs in an automated system.**

### Expert Words

d) Certified mail, postage and fees of insurance carriers included where given, is to protect computer systems and letters in ways business managers are obligated.

**Expert Systems** - A computer system that performs a task at or near the level of a human expert. Also called knowledge-

**Expert System Shell** - A software tool that simplifies the development of expert systems by providing several components of expert systems in one package, usually the user interface, inference engine, and memory management components.

**Inference Engines:** The reasoning part of an expert system that is responsible for manipulating the knowledge base to solve a problem.

**Knowledge Acquisition:** The process of creating, collecting, or deriving

**Knowledge base** The component of an expert system that consists of the facts and heuristics about a domain. The knowledge is often recorded in the form of assertions, facts, rules, or objects.

**Knowledge Engineer** As a Medical Officer specialty is in solving problems, acquiring knowledge, and building intelligent systems.

**Prototype** is a rapid prototyping development, a prototype is an initial functioning version of the system that's built using an off-the-shelf of the overall knowledge representation and inference facilities of the system.

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